INTERNATIONAL SEARCH REPORT

International application No.
PCT/US03/24560

A. CLASSIFICATION OF SUBJECT MATTER
IPC(7) : G01N 33/00, 33/53; C07K 14/00
US CL : 435/7.8, 375; 530/350; 800/3
According to International Patent Classification (IPC) or to both national classification and IPC

B. FIELDS SEARCHED

Minimum documentation searched (classification system followed by classification symbols)
U.S. : 435/7.8, 375; 530/350; 800/3

Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched

Electronic data base consulted during the international search (name of data base and, where practicable, search terms used)
Please See Continuation Sheet

C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category *	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
A	FAGOTTO F, et al. Domains of Axin involved in protein-protein interactions, Wnt pathway inhibition, and intracellular localization. J. Cell biol. 17 May 1999, Vol. 145, No. 4, pages 741-756; see entire document.	1-5, 7, 11, 12, and 16-19
Y,P	RUI H-L, et al. SUMO-1 modification of the C-terminal KVEKVD of Axin is required for JNK activation but has no effect on Wnt signaling. J. Biol. Chem. 08 November 2002, Vol. 277, No. 45, pages 42981-42986; see entire document.	1-5, 7, 11, 12, and 16-19
Y,T	RUIZ S, et al. Functional link between retinoblastoma family of proteins and the Wnt signaling pathway in mouse epidermis. Developmental Dynamics. 2004, Vol. 230, pages 410-418; see entire document.	1-5, 7, 11, 12, and 16-19
Y,T	SHIBAMOTO S, et al. A blockade in Wnt signaling is activated following the differentiation of F9 teratocarcinoma cells. Experimental Cell Research. 2004, Vol. 292, pages 11-20; see entire document.	1-5, 7, 11, 12, and 16-19

☒ Further documents are listed in the continuation of Box C. ☐ See patent family annex.

* Special categories of cited documents:

"A" document defining the general state of the art which is not considered to be of particular relevance

"E" earlier application or patent published on or after the international filing date

"L" document which may throw doubts on priority claim(s) or which is cited to establish the publication date of another citation or other special reason (as specified)

"O" document referring to an oral disclosure, use, exhibition or other means

"P" document published prior to the international filing date but later than the priority date claimed

"T" later document published after the international filing date or priority date and not in conflict with the application but cited to understand the principle or theory underlying the invention

"X" document of particular relevance; the claimed invention cannot be considered novel or cannot be considered to involve an inventive step when the document is taken alone

"Y" document of particular relevance; the claimed invention cannot be considered to involve an inventive step when the document is combined with one or more other such documents, such combination being obvious to a person skilled in the art

"&" document member of the same patent family

Date of the actual completion of the international search
27 September 2004 (27.09.2004)

Date of mailing of the international search report
13 OCT 2004

Name and mailing address of the ISA/US
Mail Stop PCT, Attn: ISA/US
Commissioner for Patents
P.O. Box 1450
Alexandria, Virginia 22313-1450
Facsimile No. (703) 305-3230

Authorized officer
Stephen L. Rawlings, Ph.D.
Telephone No. (703) 308-0196

Form PCT/ISA/210 (second sheet) (July 1998)

INTERNATIONAL SEARCH REPORT

PCT/US03/24560

C. (Continuation) DOCUMENTS CONSIDERED TO BE RELEVANT

Category *	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
Y	HSU W, et al. Impaired mammary gland and lymphoid development caused by inducible expression of Axin in transgenic mice. J. Cell Biol. 10 December 2001, Vol. 155, No. 6, pages 1055-1064; see entire document.	1-5, 7, 11, 12, and 16-19
Y	NISHIDA T, et al. Characterization of a novel mammalian SUMO-1/Smt3-specific isopeptidase, a homologue of rat Axam, which is an Axin-binding protein promoting beta-catenin degradation. J. Biol. Chem. 19 October 2001, Vol. 276, No. 42, pages 39060-39066; see entire document.	1-5, 7, 11, 12, and 16-19
Y	KADOYA T, et al. Inhibition of Wnt signaling pathway by a novel Axin-binding protein. J. Biol. Chem. 24 November 2000, Vol. 275, No. 47, pages 37030-37037; see entire document.	1-5, 7, 11, 12, and 16-19